

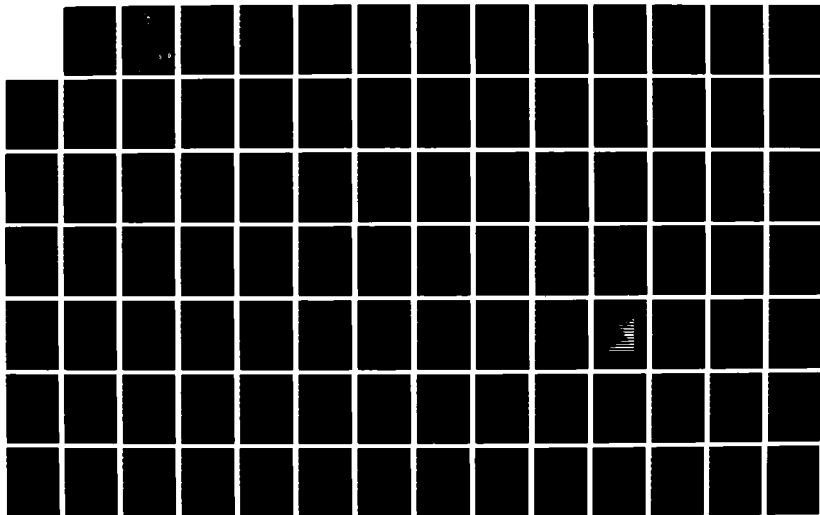
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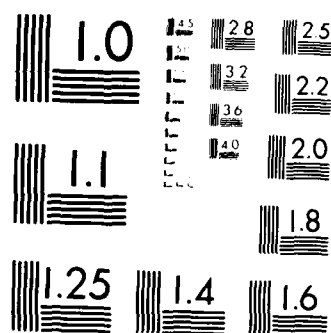
A STUDY OF FACTORS AFFECTING THE ATTRACTION AND
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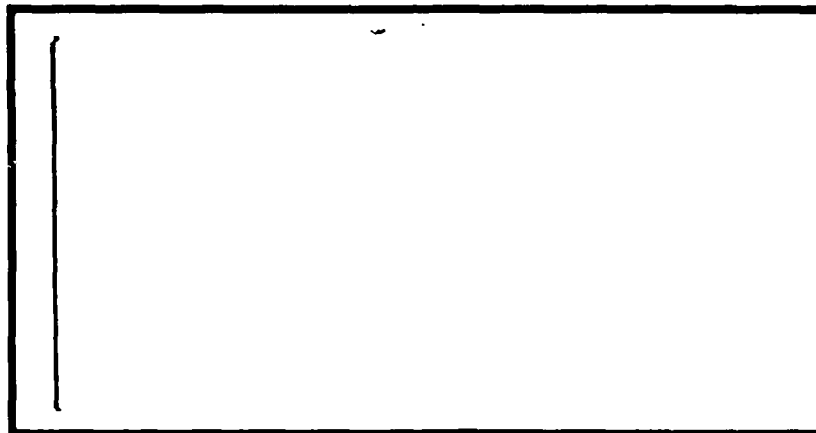


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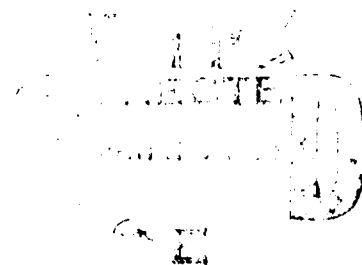
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A STUDY OF FACTORS AFFECTING
THE ATTRACTION AND RETENTION
OF HIGH CALIBER PERSONNEL TO
DEPARTMENT OF DEFENSE CONTRACTING

THESIS

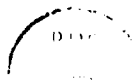
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A STUDY OF FACTORS AFFECTING THE
ATTRACTION AND RETENTION OF HIGH CALIBER PERSONNEL TO
DEPARTMENT OF DEFENSE CONTRACTING

THESIS

Presented to the Faculty of the School of Systems and
Logistics of the Air Force Institute of Technology

Air University

In Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Logistics Management

Russell E. Scott, B.S.

Captain, USAF

September 1987

Approved for public release; distribution unlimited

Acknowledgements

The purpose of this study was to compare civil service contract specialists (GS-1102 series) to their counterparts in private industry. The goal was to determine the factors which help or hinder the DoD in attracting and retaining high caliber contract specialists.

Recommendations presented include the decentralization of the personnel management process, increasing compensation of contract specialists, reclassifying the series as professional as opposed to administrative, and removal of artificial barriers in the hiring process.

In completion of this thesis I have received considerable help from others. Special thanks is owed to my thesis advisor, Captain Holly Conner, for her support and efforts at keeping me on track. Lt. Col. Robert Skipp was invaluable in his assistance in selecting the topic and securing needed survey data. The time expended by many people in answering my questions, both in private industry and government, receives my greatest appreciation. Without their sacrifice this thesis would not have been possible.

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Russell E. Scott

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Abstract

The Packard Commission stated "DoD must be able to attract and retain the caliber of people necessary for a quality acquisition program." and "compared to its industry counterparts, this work force is undertrained, underpaid, and inexperienced." This study examines the factors which impede the DoD's ability to attract and retain high caliber civilian personnel in the GS-1102 series. A comparison of DoD contract specialists and their private sector counterparts was developed through telephone interviews and examination of recently completed surveys. This research indicates the DoD contract specialists are not compensated as well as their private industry counterparts. While DoD attracts high caliber college graduates through such programs as Copper Cap, it often fails to retain these people beyond five years of service. Recommendations include decentralization of personnel management, increasing compensation of contract specialists, and removal of artificial barriers in the civil service hiring process.

A STUDY OF THE FACTORS AFFECTING THE ATTRACTION AND
RETENTION OF HIGH CALIBER PERSONNEL TO
DEPARTMENT OF DEFENSE CONTRACTING

I. Introduction

One of the major concerns facing the Department of Defense (DoD) is the efficient acquisition of the weapon systems, supplies, and services needed to provide both an effective deterrence and a viable fighting force should conflict occur. Defense acquisition is the largest business enterprise in the world (22:43). Annual purchases by the DoD total almost \$170 billion - more than the combined purchases of General Motors, EXXON, and IBM (22:43). DoD's research and development (R&D) expenditures are more than fifteen times those of France, Germany, or the United Kingdom, and eighty times those of Japan (22:43). In recent years increasing attention has been focused on the methods DoD uses in the expenditure of public funds to acquire the items needed for national defense. The media has focused on the problem of overpriced spare parts and minor hardware items. The "horror stories" on hammers, coffee pots, and other spare parts have attracted the attention of the general public (16:1). Many of these "horror stories" were simply explained, many of the items were never

bought, but the attention focused on possible problems is very real.

The Reagan Administration has responded to these criticisms. On 15 July 1985 President Reagan issued Executive Order 12526, establishing the President's Blue Ribbon Commission on Defense Management (22:25). This commission is often referred to as the Packard Commission after the chairman, Mr. David Packard. The Packard Commission presented its final report to the President on 30 June 1986. Chapter 3 of the report, "Acquisition Organization and Procedures", address problems and possible solutions of the existing defense acquisition system. In Section H, "Enhance the Quality of Acquisition Personnel", the Packard commission states "Our study convinces us that lasting progress in the performance of the acquisition system demands dramatic improvements in our management of acquisition personnel at all levels within DoD." (22:66) Further, the Commission stated: "DoD must be able to attract and retain the caliber of people necessary for a quality acquisition program." and "compared to its industry counterparts, this work force is undertrained, underpaid, and inexperienced." (22:66)

If the Packard Commission is correct in its assessment, the DoD faces a serious problem. What factors prevent the DoD from competing effectively in attracting and retaining the high caliber people it needs? How can the DoD attract and retain the high caliber people it needs in the defense

acquisition system? The factors that determine a "high caliber" acquisition person are themselves vague. The Assistant Secretary of Defense for Acquisition and Logistics has suggested requiring degrees in science, engineering, business, financial management, or other related disciplines (16:8). The Packard Commission recommended establishing a minimum education and/or experience requirement for the Contract Specialist (GS 1102) series. This requirement would be similar to that now established for the accounting personnel series which mandates an entry-level criterion of twenty-four semester hours in business related courses or equivalent experience. A study by the Government Accounting Office (GAO) revealed that in industry, 20 percent of the prime contract negotiators and 27 percent of the subcontract negotiators majored in engineering while none of the government contracting officers studied majored in this field. Other experts believe an engineering background would enhance the contracting officer's ability in program planning (8:119).

Scope of the Study

This study will concentrate on civilian acquisition personnel, both in the federal government and in private industry, in the Contract Specialist career field. This career field includes both military and civilian personnel with civilians (GS 1102 series) making up 85 percent of the more than 24,000 members (22:68). Specific civilian job titles include contract administrators, contract specialists,

contract negotiators, contract terminations specialists, contract cost/price analysts, and procurement analysts (4). The private industry counterparts to the government contract specialists were studied as a comparison base to determine the differences between DoD and private sector contracting personnel. The Packard Commission report states that higher pay and better opportunities in private industry lure the best college graduates and the brightest trainees away from government, particularly in such highly competitive fields as science, engineering, and contracting (22:67). An attempt was made to substantiate or refute this statement through this research. The specific areas addressed in determining what factors affect attraction and retention of high caliber contracts personnel included job and pay satisfaction, motivation, economic and geographic effects, and other factors.

II. Literature Review

Turnover

Turnover is any departure beyond organizational boundaries. Turnover may be voluntary on the part of the employee (resignation) or involuntary (firing, permanent layoff, retirement, death) (3:19). For our purposes, we will concentrate on voluntary turnover.

Definition:

Voluntary turnover is individual movement across the membership boundary of a social system which is initiated by the individual (23:9).

There are many elements involved in the decisions individuals make concerning where they will work. This is true both for the initial decision to work for an organization and the decision to stay with or leave an organization. Individuals tend to gravitate toward and remain with those organizations that give the most desirable rewards. This behavior occurs because high reward levels lead to high satisfaction which in turn is associated with low turnover (11:16). Many studies have found turnover is strongly related to job satisfaction and to satisfaction with the extrinsic rewards a person receives (20:151). Turnover is expensive, studies reviewed by Macy and Mirvis have computed the actual cost of turnover have found it can cost an organization five or more times an employee's monthly salary to replace him or

her. This is especially true of highly skilled individuals. In the case of unskilled jobs, replacement costs may be low enough to justify a high turnover rate, simply because it is more cost effective to keep wages low and suffer the high turnover rate (11:16). In situations where turnover is costly, and the organization has difficulty in relating rewards to performance, the organization must try to reward individuals at an above-average level. This should be a cost-effective strategy, even if it involves giving out expensive rewards (11:17).

James L. Price developed a model of the determinants and intervening variables of turnover (Figure 1). The primary determinants of the Price turnover model include: pay level; integration; instrumental communication; formal communication; and centralization. All of the determinants are considered positively related to turnover with the exception of centralization, which is negatively related. Satisfaction and opportunity are intervening variables between the determinants and turnover. An important point of the Price model is that dissatisfaction results in turnover only when opportunity is relatively high (15:120-121).

March and Simon developed a turnover model in 1958. In this model, the underlying theory is that the employee's decision to leave the organization is positively related to the perceived desirability of leaving and the perceived ease of leaving. Both must be perceived highly enough for turnover to result (10:6-17).

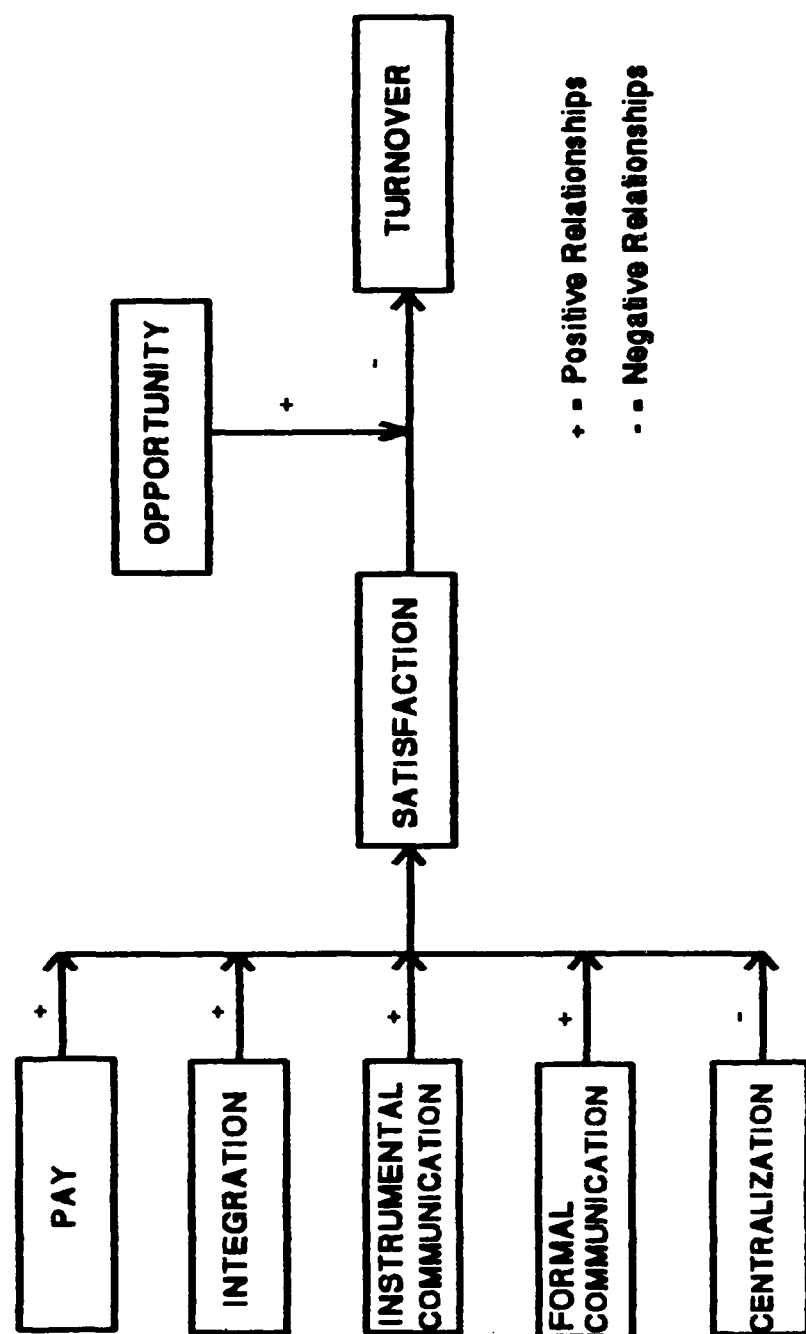


Figure 1. Price's Model of Turnover (15:120)

Job Satisfaction

Porter and Steers noted, on a general level, overall job satisfaction was found to be consistently and inversely related to turnover (19:151). Job satisfaction is made up of many factors. Lawler estimated in 1971 that between two and four thousand studies of job satisfaction had been conducted in the previous thirty years (12:205).

In order to make the concept of job satisfaction more meaningful, Porter and Steers broke it down into various factors which could be analyzed for relationships to withdrawal behavior. These factors were categorized into four groups, each representing a different organizational level. The groups were: organization-wide factors such as pay and promotion; immediate work environment factors including supervisory style and peer group interaction; job-related factors such as task repetitiveness and role clarity; and personal factors such as age, tenure and similarity of job with vocational interest (20:277-287).

In addition to job satisfaction factors, the Porter and Steers study discussed the role of "met expectations" in turnover studies. They concluded that the concept of "met expectations" had a major impact on an individual's decision to withdraw from an organization.

The concept of "met expectations" may be viewed as the discrepancy between what a person encounters on the job in the way of positive and negative experiences and what he expected to encounter (20:277).

The individual perceives a level of expectation as the result of a given level of performance versus what he actually receives. It can also refer to the amount of rewards an individual believes should be attached to a particular position or job (18:29). If expectations were reasonably well met, job satisfaction should result. Porter and Steers present several important conclusions resulting from studies of met expectations: (1) The decision to participate or withdraw from an organization may be looked upon as a process of balancing received or potential rewards with expectations; (2) whatever the determinants of the individual's expectation set, it is important those factors be substantially met if the employee is to remain with the organization; (3) clarification of both expectations and potential rewards should have the effect of generally increasing the degree to which such expectations are met; (4) clarifying expectations among entering personnel so as to bring them into closer alignment with available rewards is a key to the reduction of turnover (20:288-290).

Price added another variable, opportunity, to the turnover factors of Porter and Steers. Opportunity is defined as the "availability of alternative roles in the environment

(23:81)." These alternative roles are normally jobs available outside the organization. Price makes two important assumptions about opportunity. First, the individual has knowledge of the opportunities available. Second, the individual has the freedom to leave the organization. The lack of available alternatives in the environment would mean the individual would be less likely to leave the organization, even if job satisfaction were low (23:82,83).

Peer group integration can provide support and reinforcement necessary for adjustment and attachment to the work environment (19:159). "Successively higher amounts of integration will probably result in successively lower amounts of turnover" (17:79). Two factors appear to lead to this conclusion: group cohesiveness and inclusion in the organization. Price states:

Turnover is high where conditions are such as to inhibit the development of small group cohesiveness. A major need satisfier is likely to be that of belonging to a cohesive and rewarding group, and if this need is not satisfied, the worker will very likely fail to adjust to the work situation and will therefore more readily withdraw from it (17:79).

Successively higher degrees of role clarity will probably result in successively lower amounts of turnover. The opposite of role clarity is role ambiguity. Because many studies of turnover identify role ambiguity as a factor of job dissatisfaction, it may be easier to view role clarity in this way. Role ambiguity may result from rapid organizational changes, organizational complexity, and managerial

philosophies concerning communications. If allowed to persist, such ambiguities may result in feelings of futility and general job dissatisfaction which can lead to withdrawal. There is strong support for role clarity as a determinant of turnover as indicated by Porter and Steers. They noted that:

Prior knowledge and understanding of the role requirements were a significant factor in continued participation. Job applicants who were provided with a clear picture of their jobs prior to employment would be more likely to remain with the organization than those who did not receive such information (19:163).

The degree of autonomy and responsibility experienced on the job has been found to affect the propensity to withdraw. Successively greater amounts of autonomy and responsibility will probably result in successively lower amounts of turnover. Porter and Steers concluded that employees who reported lower levels of autonomy were more likely to withdraw (19:163).

Porter, Steers, Mowday, and Boulian found a strong relationship between organizational commitment and turnover. They stated "commitment to the organization was clearly the most important variable differentiating between stayers and leavers (21:606)." Commitment to an organization has been defined in terms of the strength of an individual's identification with and involvement in a particular organization (21:604). Successively higher levels of organizational commitment should lead to successively lower levels of turnover.

Successively greater promotional opportunities will probably result in successively lower amounts of turnover. Porter and Steers found that the lack of promotional opportunities is a primary stated reason for withdrawal from the organization (15:103). Complicating the effect of promotion opportunities on turnover are the aspirations and inspirations of the individual employee. The employee may not be satisfied with his or her current position, but may stay with the organization because of the future promotion opportunities. Conversely, the employee may have been satisfied with pay and promotions thus far, but leave the organization because future opportunities for promotion are more limited (15:105).

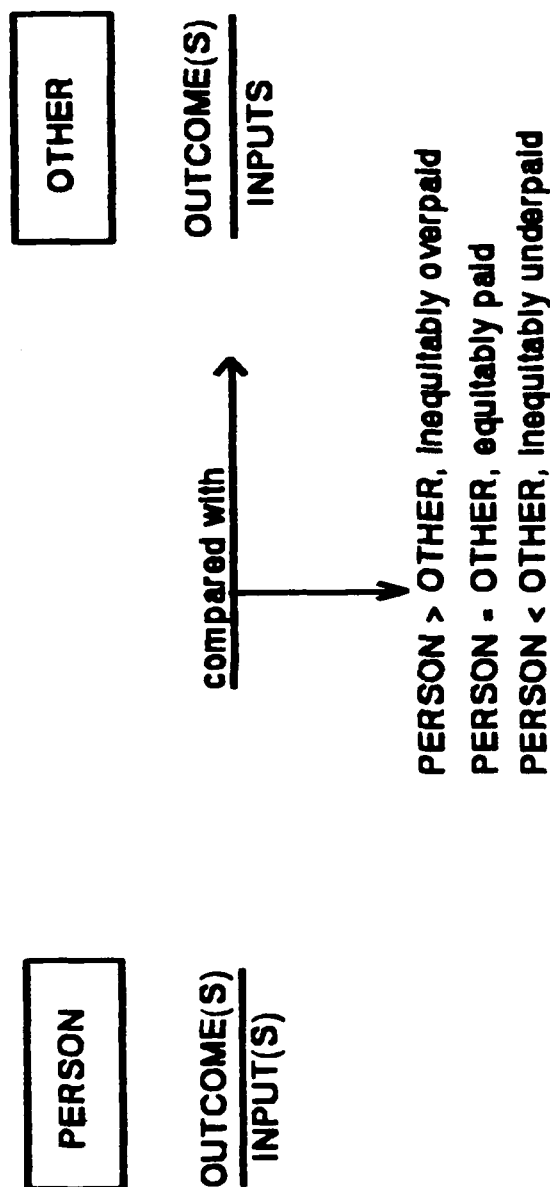
Pay Satisfaction

Pay satisfaction has a negative causal relationship to turnover. "Successively higher amounts of pay will probably produce successively lower amounts of turnover" (17:68). Pay is defined as money, fringe benefits, and any other financial remuneration organizations give to employees in return for their services (17:68). Price reviewed many studies which also support this relationship between pay and turnover (23:10). Mobley states the relationships between pay satisfaction and turnover "are sufficiently consistent to warrant pay as among the primary hypothesized contributors to turnover in any organizational study" (15:103).

Equity Theory

Individuals can compare their pay to the pay of others both inside and outside the organization. Both internal and external inequity have serious consequences for the organization. However, the consequences of external inequity (turnover and absenteeism) are the most severe for the organization and are the ones that deserve primary attention. Internal equity often gets a majority of the attention in organizations because it is more immediate, while external equity rarely receives enough attention. The consequences of internal inequity are often in the form of requests for transfers to higher paying jobs within the organization. External inequity results in employees seeking transfers to jobs outside the organization (11:37).

Pay satisfaction has been extensively studied, resulting in the development of several theories or models. Pay equity is one of the most studied components of pay satisfaction. J. S. Adams' 1965 equity theory formulation, as outlined by H. G. Keneman, is one of the first examples of research in this area. The equity theory model (Figure 2) suggests that an employee (Person) formulates a ratio of outcomes to inputs. This ratio is then compared to the outcome/input ratio of some referent source (Other). If the two perceived ratios correspond, the employee experiences feelings of pay equity and satisfaction. A difference in the two ratios leads to feelings of pay inequity and dissatisfaction. If the



OUTCOMES: Factors such as pay, working conditions, security, recognition, etc.
INPUTS: Personal and job factors such as skill, education, experience, seniority, effort, performance, job level, time, span of discretion, etc.

Figure 2. Equity Theory (9:116)

employee's perceived ratio is less than that of the referent source, the employee feels inequitably underpaid. If the employee's perceived ratio exceeds the referent source ratio, the employee feels inequitably overpaid. Feelings of inequity may cause the employee to attempt a reduction of the inequity. This can be done by changing the actual outcome/input ratios of the employee and the referent source, changing perceptions of the ratios, choosing a different referent source, or actually leaving the organization and finding a more equitable situation (9:116-117).

Feelings of overreward are easily reduced by individuals with very few employees stating they feel overpaid. Usually the employee reduces the feelings of overreward by changing his or her perception of the situation. When individuals feel underrewarded they rarely adjust their perceptions as easily as when they feel overrewarded. They usually cling to their perception of being poorly paid. A change is usually brought about only by changing the actual situation through a pay raise or change of employment (11:12). The concept of equity can be further broken down into external, internal, and individual equity. External equity is a fairness criterion which demands an employer pay a wage rate that corresponds to rates prevailing in external markets for the employee's occupation. From a purely economic perspective, external equity corresponds to the exchange rates determined by the intersection of the demand for labor (the maximum rates employers are willing to pay) and the supply of labor (the

least employees are willing to accept) (26:19-21). Scholl et al. refer to external equity as occupational equity or the comparison with other individuals doing substantially the same job in other organizations (24:117).

Internal equity is a fairness criterion that demands employers set wage rates for jobs within their companies that correspond to the relative internal value of each job. That is, internal equity refers to the value of work performed on a job to the employer. This value may or may not be tied directly to the marketplace. Empirical research suggests that internal and external equity can operate quite independently of each other (26:20). Scholl et al. divide internal equity into job equity and company equity. Job equity refers to the comparison with other individuals doing the same job within the same organization. Company equity refers to the comparison with other individuals in the same organization performing substantially different jobs that require similar levels of responsibility, skill, effort, education, and working conditions (24:117).

Individual equity criterion requires employers pay wage rates to individuals (in the simplest case, workers on the same job) according to variation in individual merit. Better workers should receive higher wages on the same job than

poorer workers. Factors contributing to merit may include tenure and job performance (26:21).

Scholl, Cooper, and McKenna added some equity comparisons in their 1987 study of equity theory. These include cohort comparisons, consisting of educational equity and age equity. Educational equity involves comparison with others who have attained the same educational level and similar responsibility. Age equity is simply comparison with others of the same age. They defined system equity as comparisons with the amount of pay individuals expected from the system at a particular time. Self-equity is an internal evaluation of self-worth based on what the individual feels he should be earning (24:117). Their research involved a sample of 161 full-time employees of a large northeastern financial institution. They found that the best predictors of pay satisfaction were system equity, self-equity, and occupational (external) equity. For pay satisfaction to occur, an individual must feel the system in general is equitable and that he or she is getting market value compared with others in the same field and pay must meet some self-set level (24:116-122).

Scholl, Cooper, and McKenna also noted the effects equity had on extra-role behavior. Extra-role behavior consists of those activities beyond the minimum required by the position and is a measure of performance. Individuals will reduce inputs (performance) when they perceive inequity. They found job (internal) equity to be a predictor of extra-role

behavior, with individuals reducing frequency of extra-role behavior (reducing performance) when they perceived inequity to exist. External forms of inequity are more closely associated with membership, while internal forms of inequity are more closely associated with performance (24:123).

Lawler expanded on equity theory when he developed his discrepancy model (Figure 3), which itself has generated considerable research. The discrepancy model states that pay satisfaction or dissatisfaction is a function of the discrepancy between two perceptions. The first perception pertains to how much pay one feels he or she should receive. The second perception is simply how much pay one feels he or she does receive. If these two perceptions are identical (no discrepancy), a person will experience pay satisfaction. Discrepancies in the two perceptions lead to feelings of dissatisfaction. Specifically, if the "should receive" perception exceeds the "does receive" one, the person will feel underpaid and thus experience dissatisfaction. Alternatively, if "does receive" is greater than "should receive," the person will feel overpaid and experience dissatisfaction in the form of guilt or discomfort (9:117).

Lawler later modified his discrepancy model (Figure 4) to include other factors that affect overall pay satisfaction. "Pay satisfaction" is not a unidimensional construct (9:119). Pay can be broken down into four distinct categories: pay

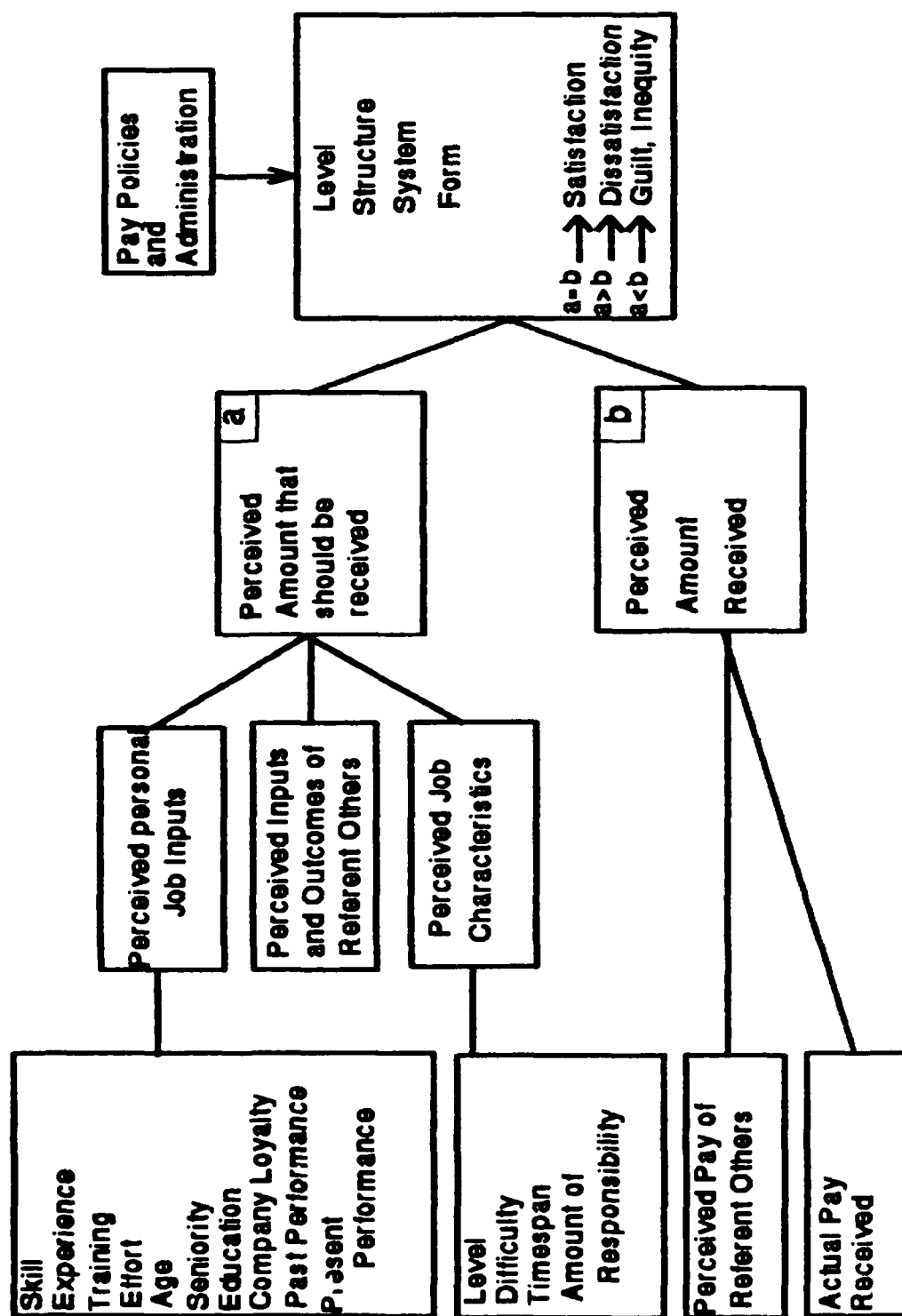


Figure 4. Modified Discrepancy Model (9:121)

level, pay structure, pay system, and pay form (9:119). These were defined by Heneman and Schwab as follows:

1. Pay system refers to the method the organization uses to determine pay, which can be computed in terms of the amount of time the employee spends on the job (time-based systems) or for his performance or efficiency (performance-based systems). Performance-based systems include individual and group incentive systems, merit systems, commissions, cost-reduction schemes, and profit sharing.
2. Pay structure refers to the hierarchy of pay rates or levels among jobs in an organization.
3. Pay level refers to an average of several wages or salaries in the organization. The average may be based on individual pay rates for a single position or on pay averages for a number of positions.
4. Pay form refers to the type of pay that is received by the employee. Pay may be viewed as direct remuneration for time worked or performance, or it may be viewed as indirect remuneration in the form of fringe benefits or services. (10:6-1 - 6-2)

Each of these dimensions of pay satisfaction can have an affect on the overall pay satisfaction of the employee. This tends to complicate Lawler's discrepancy model further since it is possible for an employee to experience satisfaction with one dimension and dissatisfaction on another dimension (9:120).

Lawler's discrepancy model is further complicated by the role of the organization's pay policies and administration in influencing pay satisfaction, independently of the causal variables specified in the original model. An example would include feelings about the organization's performance appraisal policies having effect on one's satisfaction with a pay raise, beyond those attributable to the person's

perceptions of his performance as an input. The effect of these modifications on the original discrepancy model are to make the model more accurate, while complicating research on pay satisfaction. Pay satisfaction is difficult to measure as the above modifications to the discrepancy model indicate, but the basic premises of the model are clear (9:120).

The type of compensation program has also been found to have an effect on pay satisfaction. Many organizations have centralized compensation systems, which typically have standardized pay rates, standardized job evaluation systems, and standardized policies and procedures that cover the entire organization. The presumed advantages of this are ease of transfer of people from one part of the organization to another, internal equity, effective cost control, and consistency across the organization. A centralized approach to compensation administration is usually quite appropriate in small organizations, and in large ones that are in a single business and in a single centralized location. Lawler states that the advantages of a centralized compensation system are considerably less obvious in large organizations which operate in multiple businesses in multiple locations (11:39). In these organizations the centralized approach tends to be highly dysfunctional. It is dysfunctional because it effectively takes away the local autonomy that is needed to fit the compensation to the local market and to the kind of business that the organizations find themselves in. The

decentralized, differentiated approach seems to be advisable in large organizations that are in multiple businesses that operate in multiple locations (11:40).

Investments

Investments refer to that category of variables which serve to decrease mobility by increasing the value of the present relationship. This includes acquisition of nonportable skills, nonportable retirement plans, and length of service under investments. Mobley calls this class of variables "costs of quitting" and includes loss of vested benefits and loss of seniority as examples (2:277). These investment factors collectively can be referred to as the "opportunity cost of quitting". The value of the current employment as perceived by the employee determines the opportunity cost of quitting. The higher the opportunity cost of quitting the current employment, the lower the employee's propensity to quit (2:301).

An "opportunity cost of staying" is the possible benefits another organization may offer that the individual sacrifices when deciding to remain with the current organization. When making the decision to stay with the current organization, the individual sacrifices the opportunities of the available alternatives to the current employment. When the opportunity cost of staying becomes greater, as perceived by the individual, than the opportunity cost of quitting, the

individual's propensity to quit increases. The number of perceived alternatives also may affect the individuals perception of the opportunity cost of staying (2:296-297).

Problem Statement

The purpose of this research is to determine if there is a difference in the entry and mid-level compensation of DoD Contract Specialists as compared to their private industry counterparts. For the purposes of this research study, entry-level will be equal to a new college graduate or someone with less than one year of experience. Mid-level will be equal to someone with five or more years of experience and an undergraduate degree.

Research Questions

Question 1: What percentage of the private industry contract specialist have experience in an acquisition related field (engineering, quality assurance, program management, etc.) before entering the contracting career field? Do civil service contract specialists have similar backgrounds?

Question 2: What is the current entry-level annual salary, excluding non-monetary fringe benefits, for contract specialists in private industry? How does this compare to the civil service GS-1102 starting salaries?

Question 3: What are the effects of geographic location (city) on compensation of private industry contract specialists? Does geography also affect the compensation of civil service contract specialists?

Question 4: What significant fringe benefits do the private industry contract specialists enjoy? What are their perceptions of their job security? How do these factors compare to civil service?

Question 5: What is the difference in annual salary for private sector contract specialists with a Master's degree compared to those with only a bachelor's degree? Are there comparable differences in civil service salaries?

Question 6: What is the current annual salary of private industry contract specialists who have been in the career field for five years (mid-level)? How does this compare to a high caliber civil service contract specialist?

III. Methodology

Several recently completed surveys have yielded a great deal of information on Contract Specialists in both the DoD and in private industry. Analysis of these data bases was used to help compare the DoD contract specialists to their private sector counterparts. To supplement the data contained in these data bases, structured telephone interviews were conducted with employment specialists who concentrate on placing contract specialists in private industry.

The first of the surveys was completed by Market Opinion Research for the Packard Commission. Entitled "Survey of Department of Defense Acquisition Work Force", the survey was sent to 9,974 members of the DoD acquisition work force during April, 1986. Half went to contract specialists while the rest were sent to other acquisition team members. A total of 6,175 surveys were returned by the 21 May 1986 closing date for a 62% response rate. The survey consisted of 187 questions designed to determine the work force opinion on education, training, job satisfaction, supervision, motivation, rewards, and resource adequacy. The work force was asked to rate their competence as compared to their industry counterparts, as well as their compensation compared to industry. The other members of the acquisition team outside the contract specialist career field were also asked to rate the capabilities of the contract

specialists (22:181). These ratings were based on the perceptions of the individual respondents involved.

The second survey was conducted by the GAO in support of a research report completed in May of 1986. This survey was sent to prime contract negotiators, program managers, and system or subsystem contract managers at 28 private firms specializing in aerospace, electronics, and shipbuilding. The purposes of this survey were to gather information and compare industry acquisition policies, practices, and work force with government and to obtain industry views on improving the defense acquisition process (8:126). The third survey was conducted by the Army Procurement Research Office and was designed to measure the morale of the Army contracting work force of over 7,000 people. There were 4,483 survey responses for a 64% return rate. Also 658 structured interviews were conducted (1:4).

Two studies, one of Air Force Systems Command contract negotiators and the other of 126 contract negotiators from a large aerospace prime contractor, were undertaken to compare the capabilities and perceptions of contract negotiators. Contract negotiation is a subset of the contract specialist career field. The purpose of these surveys was to determine the perceptions of DoD and industry contract negotiators as to their counterparts abilities in the negotiation arena (7:30).

As can be seen from the descriptions of the above surveys, there is a great deal of available information on the DoD contract specialists. Unfortunately the same is not true

concerning their industry counterparts. Structured, in-depth telephone interviews were conducted with several private firms that do business in both defense and in the commercial arena. Also, private employment agency experts were interviewed by telephone. A set of six sample resumes of fictitious people were constructed and distributed to these firms and agencies along with a cover letter explaining the research. These sample resumes were developed using real resumes of current DoD contract specialists. Confidentiality was guaranteed to the respondents. The firms were then contacted by telephone to receive their responses and to discuss their views on the contract specialist career field.

An attempt was made to conduct these interviews with firms in different geographic areas. This was an attempt to determine the effect of geographic location on compensation levels within localized labor markets. The sample resumes also reflect different locations. The effect of many diverse geographic locations is one that the federal government must deal with due to the wide distribution of DoD facilities both in the United States and overseas. Congress has recognized differences in the cost of housing at different geographic locations where military personnel are assigned by creating the Variable Housing Allowance (VHA) program. This program was designed to partially relieve the burden on military personnel assigned to high housing cost locations within the continental United States, and is an example of an attempt to

compensate for different geographic locations. The effects of geographic location were to be determined by comparing firms in the Boston, Los Angeles, Washington, D.C., and Dayton, Ohio. A large number of government contract specialists are located in each of these locations as Boston, Dayton, and Los Angeles are the locations of major product divisions of Air Force Systems Command (AFSC) and Washington, D.C. is the location of the Pentagon and AFSC Headquarters.

Limitations

The nature of this research involves a great many limitations, especially since it involves compensation information from the private sector. Many organizations have a policy of secrecy about compensation practices (25:284). While civil service compensation is a matter of public record, many private firms have pay secrecy policies. These pay secrecy policies make collecting information on compensation in private firms difficult. Many firms are willing to provide salary ranges for specific jobs and these salary ranges were sought in this research.

Salaries for individual contract specialists in the private sector vary widely depending on the qualifications of the individual and the company involved. This is especially true for more senior employees who may receive much of their compensation through stock option plans or incentive bonus programs. In these cases, base salary may not even be the major portion of the senior level employee's compensation

package. For this reason, this research was limited to comparing entry-level and mid-level employees who derive most of their compensation through salary and fringe-benefit programs.

There may be effects on salary levels resulting from affirmative action policies or hidden discrimination in the market place. The purpose of this research is to compare contract specialists based on their qualifications without possible complications produced through such discrimination. The sample resumes prepared and used in this research specifically were designed to not reveal sex, race, or other factors that may confound the data received due to discrimination factors.

IV. Findings

This chapter presents the findings developed during telephone interviews with employment specialists and human resources or contracts managers from private companies. It also includes data from the surveys described in Chapter III for use in comparing civil service contract specialists to their private sector counterparts.

Interview Results

Research Question 1: What percentage of the private industry contract specialists have experience in an acquisition related field (engineering, quality assurance, program management, etc.) before entering the contracting career field? Do civil service contract specialists have similar backgrounds?

This is a difficult question to answer based on the information received in the interviews. One employment specialist gave some insight into this, stating there was some switching between program management people and contract specialists, but he did not believe it was a common occurrence. Other interviewees also stated this was not a common practice as most engineers and program managers were paid more than contract specialists.

The GAO survey of private industry contract specialists and program managers reveals that 24 percent of the private industry contract specialists surveyed held at least a

bachelor of science degree in engineering. The percentage was higher for subcontract specialists (27%) than for prime contract specialists (20%) (8:119). None of the private industry interviewees expressed a specific preference for specialists with a technical background. Yet, private industry contract specialists with technical backgrounds exceeded the number of civil service contract specialists with such experience or education. Of the government contracting officers study by the GAO, none held a degree in engineering. An additional 44 percent of the industry contract specialists surveyed held a degree in business administration or a closely related field. The GAO survey revealed 56 percent of the government contracting officers surveyed held business administration or related degrees (8:118).

While there appears to be very little switching between career fields after an individual has gained some experience, there does appear to be some differences in educational background as the private industry contract specialists tend to have more technical education.

Research Question 2: What is the current entry-level annual salary, excluding non-monetary fringe benefits, for contract specialists in private industry? How does this compare to the civil service GS-1102 starting salaries?

Entry level salary information is difficult to quantify simply because of the variation in companies, the school the individual attended, and the undergraduate major. One employment specialist related a story of an individual with

seven months experience that he recently placed with a firm in Florida for an annual salary of \$25,000. The contracts manager at a large aerospace corporation in New England stated college graduates with a bachelor of science in Business Administration started into their training program at \$22,000 per year and received an increase to \$27,000 after one year. A human resources manager in Los Angeles reported their entry-level annual salary was \$25,600 and \$28,000 was common for first year contract specialists in the area.

These salaries are contrasted with the starting salaries available to individuals coming into civil service after completion of a four year undergraduate degree. There are three different routes a new college graduate may take to becoming a civil service contract specialist. 1) The average college graduate, would enter at the GS-5 level which equates to \$14,822 per year. 2) The outstanding graduate, which civil service regulations specify as someone with a grade point average (GPA) of 3.50 or higher on a 4.00 point scale, may gain admission to a management training program known as Copper Cap. Copper Cap trainees start at the GS-7 level which equates to \$18,358 per year. They receive annual promotions to the GS-9, GS-11, and in most AFSC product divisions, to the GS-12 level. There are no restrictions as to undergraduate major, GPA is the only factor considered. 3) One alternative to the 3.50 or higher GPA is a 2.90 GPA and the taking of a examination available to individuals seeking jobs

in the GS-1102 series. A second alternative is to have completed a year of graduate education in Business Administration. Only the third alternative requires a field of study directly related to contracting.

The private industry representatives did not outline any special requirements for a specific starting salary. The researcher assumed they hired the best graduate they could at a specified salary level, especially since the contracts manager at a majority of the firms was directly involved in the interview process. The salaries quoted by private companies would indicate they have a \$4,000 to \$10,000 per year advantage over the DoD, even at the higher GS-7 starting salary given to superior college graduates.

An additional obstacle to the hiring of high caliber graduates was related to the researcher by an experienced contracts manager at a private company. He was preparing to take early retirement from his company and was considering employment with civil service. He related the problems he was having with the preliminary paperwork and particularly the Standard Form (SF) 171, which had been rejected several times. In spite of this individual's years of experience in completing government forms and documentation as a contract specialist and manager, he was having a very difficult time getting the SF 171 accepted. If someone with his experience were having such a difficult time with the hiring process, how much success would a new college graduate have, especially when other much less frustrating alternatives were available?

This particular contracts manager felt that the elimination or simplification of the SF 171 process would be essential to the efficient hiring of personnel by the government. He was charged with the responsibility for hiring contract specialists for his company, which had a much simpler hiring procedure, and felt that competition for the highest caliber people is seriously affected by a slow and cumbersome process of evaluating applicants and tendering job offers.

Research Question 3: What are the effects of geographic location (city) on compensation of private industry contract specialists? Does geography also affect the compensation of civil service contract specialists?

The consensus among most of the employment agencies contacted was salaries tended to be lower in the south, midwest, and areas outside of large metropolitan areas. New England, the Washington, D.C. area, and the west coast commanded the largest salaries, with Boston being a rather unique case because of a tremendous escalation in real estate values in recent years. This research was designed to study problems in areas such as Washington, D.C., Boston, Los Angeles, and Dayton, Ohio. While Dayton is not considered to be a high cost area in comparison to the other three, it was included in this study to provide some balance and because a large number of Air Force contract specialists are employed at Aeronautical Systems Division (ASD), Wright-Patterson AFB. Both Boston and Los Angeles also contain major buying

divisions of Air Force Systems Command (AFSC) and the Washington, D.C. area includes the Headquarters for both AFSC and the Air Force, all of which involve large numbers of DoD contract specialists.

In high cost of living areas, many of the private firms interviewed have been trying to hire local people whenever possible to avoid the problems of relocating new employees. The problems related to the researcher not only include the cost of the relocation, but the impact high housing costs have on people from other areas of the country, and on the individual's family. Several stories were related to the researcher of individuals initially accepting high paying jobs in the Boston area only to later back out of the position after seeing the cost of real estate. One employment specialist related a story of a highly qualified contracts specialist who had been working in the Cincinnati area. This individual traveled to Boston for an interview arranged by the employment specialist. The individual had the opportunity to view the Boston area and the local real estate market before the interview. After the interview, the individual informed the company they need not make him an offer as he had determined that a home which would cost him \$85,000 in Cincinnati would cost over \$250,000 in the Boston area.

By hiring individuals from the local area, companies feel the impact to the new employee will be significantly reduced and they will have an easier time adjusting to the new company

without the additional burden of adjusting to a new location. Even though the individual may be offered a 15% increase to go to the higher cost area, the cost of buying a house to replace an existing home would more than eliminate the increase in pay received.

From the point of view of the firm, in addition to the problems outlined above, the cost of relocating employees is excessive. Several employment specialist stated that it costs between \$30,000 and \$50,000 to relocate an employee and his family. Another stated that the first thing a client firm often asks about a potential candidate is whether he owns or rents his home. The employment specialists report this to be a new trend as firms were usually more willing to move new employees only a few years ago. Some firms still appear to be quite willing to move a new employee when they want the best possible person for the job or have had trouble recruiting locally.

Civil service compensation levels are not directly effected by geographic location. A GS-12, step 1, is paid at the same rate in Boston as in Dayton, Ohio. Civil service contracts managers in Boston stated there tended to be an increased rate of promotion, particularly from GS-12 to GS-13, due largely to the high turnover rate they were experiencing. The result of this increased promotion rate being higher pay for an individual then he or she may receive in a lower cost location, where turnover rates were lower. This increase in compensation in certain locations is a direct result of

turnover and not part of the overall civil service compensation system.

The civil service also provides relocation assistance to current employees, but not to new hires into the civil service system. Relocation assistance is covered further under Research Question 4, where fringe benefits are discussed.

Research Question 4: What significant fringe benefits do the private industry contract specialists enjoy? What are their perceptions of their job security? How do these factors compare to civil service?

The fringe benefit packages offered in the private sector vary between the different organizations involved, but are similar in many respects. These packages usually include medical and dental plans, company paid life insurance, long term disability coverage, a retirement program, and paid vacation. In addition, many companies offer a savings and stock ownership plans, payment of relocation expenses, educational assistance, and cash bonus programs.

Medical benefits usually consist of a small annual deductible (usually \$50 to \$200) after which the insurance plan reimburses from 80 to 90 percent of the remaining expense. The maximum amount the employee must pay in annual medical expenses is usually capped at a point after which the plan pays 100 percent of expenses. This cap usually is at the \$1,000 to \$3,000 dollar level depending on the employee's income and company.

Dental benefits usually cover 100 percent of preventative care expenses including examinations, cleanings, and x-rays. Other expenses for corrective actions such as fillings, etc. are usually subject to a small annual deductible (\$50) after which the plan reimburses at a fixed percentage of 80 to 95 percent.

Civil service makes group insurance plans available for employees, but the premiums are partially paid by the employee. The specifics of these coverages depend on the plan the employee chooses to use.

Many companies provide life insurance for the employee, with the premiums paid by the company, usually at the rate of two times the annual salary of the employee. Some also provide small amounts of coverage for the employee's family members. Often the employee has the option of additional coverage, for himself or his dependents, at his own expense.

The civil service also provides a basic life insurance policy with the option of buying additional insurance at the employee's own expense. This program is very similar to those available in private companies. Long term disability coverage is provided by most companies that will pay a fixed percentage of the employee's salary for life should the employee become seriously ill or disabled. The percentage varies from 50 to 75 percent depending on the company.

The civil service provides for long term disability coverage through the retirement system. If an employee

becomes disabled, the employee receives an early retirement based on the years of service accumulated.

Retirement plans vary considerably among private firms. Many companies provide vesting after 10 years of service to the company. Retirement may occur as early as age 55 with full retirement normally at age 65. Benefits may accrue to a surviving beneficiary should the employee die while employed. The amount of the retirement benefit is usually computed using a formula based on the years the employee was with the company. If an employee were to spend 40 years with many of the larger companies, most of the formula's in use would yield a retirement income of 50 to 75 percent of the employee's income while working.

Civil service currently uses two different retirement programs based on when the employee was hired. The original system, the Civil Service Retirement System (CSRS), did not include provisions for social security. Employees under CSRS do not pay social security taxes and are not eligible to receive social security benefits. The newer system, the Federal Employees Retirement System, includes social security and these employees pay social security taxes and are eligible to receive benefits.

Vacation time is accrued depending on level of employment and time with the company. Some companies accumulate vacation time on an annual basis while others use a monthly basis. Many companies give two weeks of vacation per year to new employees with the amount increasing to as much as four weeks per year

based on time with the company. Some companies give three weeks per year to new employees and increase this to four weeks after as little as five years with the company. Vacation is not usually available to new employees for the first six months to year, although they accrue vacation time during this period. The number of paid holidays per year varies from nine to fifteen. Many companies simply do not operate during Christmas week and may remain closed until after the New Years holiday. In addition, most companies provide military leave for members of the Reserve or National Guard, provide for jury duty absences and time off for funeral or bereavement in case of the death of an immediate family member.

Civil service provides thirteen days (2.5 weeks) of leave in each of the first three years and four weeks per year for years four through fifteen. Service of sixteen years or more earns leave at the rate of five weeks per year. Civil service also provides leave for Reserve or National Guard duty and thirteen days of sick leave per year. Vacation or leave is accrued constantly with an updated balance provided at the end of each pay period. Employees may use both sick and annual leave in small increments, often as small as one hour or less. This often occurs in the case of sick leave which may be used to attend medical or dental appointments.

Savings and stock ownership plans also varied widely among the companies interviewed. Participation in the plan is usually either immediate or available within one year of

employment. The employee is able to contribute from 1 to 18 percent of base salary either before or after taxes. Many companies match the employee's contribution at a rate of 50 to 100 percent to a maximum of 6 or 8 percent of the employee's base salary. There are usually several investment options the employee may choose from in any combination, one of which is often the company's own stock. These investments usually vary in objective and amount of risk involved.

Relocation expenses are provided by almost all companies, especially for internal transfers of current employees. Often companies will pay the costs of moving a new employee and his family when the employee is initially hired. This is particularly true for harder to fill positions or when the needed skills are not available in the local labor market. Employment specialists agree many companies will pay these costs in order to hire the most capable people from the national marketplace instead of limiting themselves to locally available talent. The relocation expenses companies reimburse usually include travel, packing and transport of household goods, and temporary living expenses. Often the employee and spouse are allowed expenses for an advance trip to the new location for the purpose of locating a new residence.

In cases where the company is having trouble attracting new employees to high cost of living locations, the company may use several techniques to encourage potential employees to relocate. The company may offer a cash incentive, in addition to relocation expense reimbursement, when the

employee is hired. The company may employ a real estate firm to assist the employee in the sale of the old home and finding a new home. In some cases, the real estate firm will purchase the existing home to expedite the process. If the monthly mortgage amount at the new location is significantly higher, the company may agree to pay the difference for one or two years to smooth the transition for the employee and his family.

Civil service also provides relocation expenses when transferring employees, however relocation expense reimbursement is not available for new employees. Civil service does not pay the difference in housing costs when transferring an employee to a higher cost area. Reimbursement for a house hunting trip and the direct expenses of the actual move is provided.

Educational assistance provided by most companies consists of 100 percent reimbursement for tuition, books, and lab fees for employees pursuing degrees at accredited institutions. This usually applies to both undergraduate and graduate study as well as other courses approved by the company. Many companies also provide in-house training and employee improvement programs. These often consist of courses offered during off-duty hours at no cost to the employee. Management development programs consisting of courses, seminars, and workshops during duty hours at no cost to the employee are

common. Many companies interviewed also offer college scholarships to children of company employees.

Civil service provides tuition assistance for courses directly related to the employees job. Usually the applicability of the course to the job is determined by the employee's supervisor. Tuition is reimbursed at the rate of 100 percent to a maximum amount per quarter or semester hour. Civil service contract specialists also have the opportunity to attend short courses and specialized training programs offered by the government. The Air Force Institute of Technology (AFIT) offers many specialized courses to contract specialists and a Master's program in Contracting and Manufacturing Management is available for highly qualified civil servants who volunteer and are selected. Government contract specialists who elect to participate in this training usually are required to remain with the government for a specified period of time, but the participant is not required to pay for the education received. Another example are the programs in program and acquisition management offered by the Defense Systems Management College (DSMC). The DSMC is highly regarded in both government and industry and operates under similar rules as AFIT.

A majority of the companies have a bonus program of one kind or another. Cash bonuses are awarded based on factors such as the individual's performance or level of achievement, the performance of the employee's department, and the overall profitability of the company. Details of how the bonus system

works in each company seem to be closely guarded, even more so than information on base salaries themselves. Employment specialists indicate the annual bonus for senior level employees in some companies may equal 40 or 50 percent of the employee's annual base salary. Bonuses are often available for more junior level employees and are often tied to specific achievements, such as winning of a contract or efficient completion of a project.

Civil service does provide for cash awards based on outstanding employee performance. Step increases may also be used to award exceptional performance. The amount of these awards rarely exceeds a few hundred dollars and they are not distributed to all members of an organization, only to a very few exceptional employees.

The perceptions of job security in the private sector were best explained to the researcher by one of the employment specialists who has been placing people in the contracting field for over twenty years. This individual outlined how the smaller companies very often pay more for individuals of the same qualifications because of the reduced security these firms offer. He stated individuals often would rather work for one of the larger firms because of an increased feeling of job security and possibly a better retirement system. This individual went on to state that employees in these larger firms probably perceive their jobs to be as secure as those in

civil service. If this is true, it is sharply different from the perception civil servants have concerning job security.

Civil service contract specialists felt there was significantly more job security in the government than in the private sector (22:177). While this sense of security may be true when compared to the smaller firms of approximately 200 employees or less, it does not appear to be true of the larger corporations.

Research Question 5: What is the difference in annual salary for private sector contract specialists with a Master's degree compared to those with only a bachelor's degree? Are there comparable differences in civil service salaries?

Interviews with both industry representatives and employment specialists indicate individuals with a Master's in Business Administration (MBA) seemed to command from \$2,000 to \$6,000 more in annual salary over those with the same experience and a bachelor's degree only. The opportunities for continued advancement beyond the middle manager level seemed to increase for individuals with advanced degrees and possibly a law degree. Many of the employment specialists also handle senior people with such titles as Director of Contracts and all of these individuals had advanced degrees in a field directly related to contracting such as business, acquisition management, or law.

The GAO survey revealed that of the private industry contract specialists surveyed, 24.3 percent held a Master's degree or higher as compared to 36.7 percent of the surveyed

government contracting officers which hold Master's degrees (8:118). The percentage of private industry contract specialists holding Bachelor's degrees only was 51.8 percent compared to government contracting officers' 48.9 percent. In total, these numbers indicate 85.6 percent of the government contracting officers surveyed held a Bachelor's degree or higher compared to 80.8 percent of their private industry counterparts (8:119). A limitation to the GAO survey must be noted, only warranted contracting officers at major systems offices were surveyed, contract specialists themselves were not surveyed. Information provided by the Air Force Civilian Personnel Management Center indicates that 58.8 percent of the GS-1102 series workforce hold a Bachelor's degree or higher and 13.2 percent hold a Master's degree or higher. On the private industry side, only large companies contract specialists were surveyed. The GAO did not survey any small businesses in their study.

For continued advancement beyond the GS-11 Or GS-12 level in the civil service GS-1102 career field, higher level formal education is an advantage. At the GS-11 level, only 43 percent of the current GS-1102 workforce held at least a Bachelor's degree (Figure 5). At the GS-15 level, the number with a Bachelor's degree or higher rises to 91 percent.

Research Question 6: What is the current annual salary of private industry contract specialists who have been in the

career field for five years (mid-level)? How does this compare to a high caliber civil service contract specialist?

Opinions here varied, but not significantly. One personnel manager in a Los Angeles manufacturing firm provided salary information for his own company and information developed in a survey by a local manufacturers' association. At the "journey" level, which they consider to be a bachelor's degree and four years experience, a contracts administrator would be making about \$32,200 a year. This individual could expect to be promoted to a senior contract administrator at the six year point with a salary of \$40,500 to \$43,560. If the individual eventually became a manager, supervising approximately six people, they could expect a salary of \$56,800.

The annual salary range for someone with a bachelor's degree and about five years of experience was from \$34,000 to \$45,000. The major factors affecting the amount were the location, the industry, the specific company, and the individual involved.

The largest effect on salary level appeared to be the industry the contract specialist was working in. High technology industries, especially electronics, seemed to offer the highest salaries. This was also true of computer hardware and software industries. These industries offered salaries ranging 15 to 20 percent higher than industries involved in commodity or low technology businesses. It was not clear from the research whether this was due to a difference in

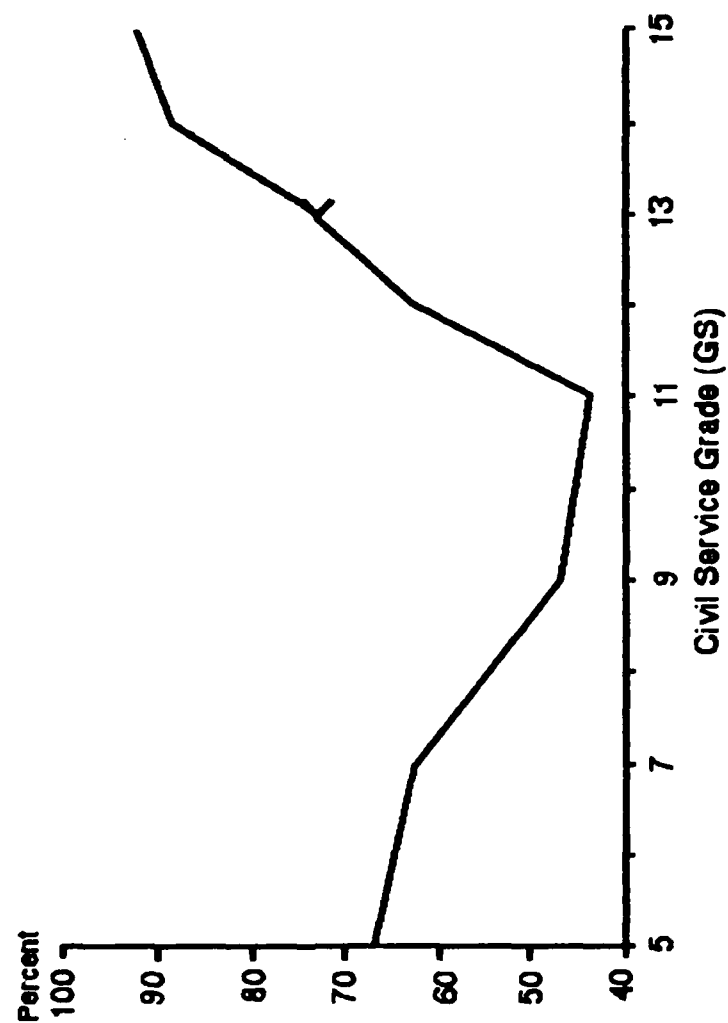


Figure 5. GS-1102 Education By Grade; Bachelor's Degree or Higher (4)

contracting difficulties or was an internal equity consideration within the individual companies.

The second largest affect on salary level seemed to be geographic location. The cost of housing appeared to be the driving force. Salaries were higher in locations such as Boston, Washington D.C., and the west coast. This difference seemed to range about ten to fifteen percent higher than in a location such as Dayton, Ohio. A ten percent increase on a \$35,000 annual salary would be \$38,500.

One employment specialist stated the government was competitive at the the GS-12 level for an average individual with four to five years of experience, but agreed with other employment specialists that the government tends to fall farther beyond as the contract specialist gains experience beyond five years. The government was not as competitive for the more high caliber individuals who are often involved in such programs as Copper Cap. Several of the employment specialists had handled applications from civil service people in this category and stated they felt many of them were seeking other employment because they felt reduced opportunity for advancement beyond the GS-12 level. This was true for those individuals who had progressed rapidly with annual promotions common in the Copper Cap training program. One of the employment specialists interviewed referred to it as a "brick wall". He stated many of his applicants felt they had a better chance for continued advancement in the more "competitive" private sector.

A contracts manager at a large New England corporation related his troubles in hiring experienced contract specialists. His company's policies specified the individual must have a minimum of a bachelor's degree and four years of experience. He had recently made a total of six job offers at the maximum level he was authorized of \$33,000 annually. All six offers had been refused with the explanation that offers had already been received in the \$35,000 to \$38,000 range. This contract manager felt that to be competitive the company would have to raise their authorized range to between \$38,000 and \$40,000.

Other Observations

Interviews with civil service contracts managers at Space Division in Los Angeles, California indicate that civil service turnover in the Los Angeles area is as high as 40 percent for contracting people. Civil service contracts managers at Hanscom AFB, Boston, Massachusetts reported that in the nine year period from January, 1978 through February, 1987 102 GS-12 contracting people had left the civil service. The office was authorized 83 GS-12's, which yields an average annual turnover rate of 13.7 percent. At the GS-13 level, during the same period, 25 people left the civil service out of 49 authorized positions. This yields a 5.7 percent average annual turnover at the GS-13 level. A civil service management analyst in Boston stated most of the losses at the GS-12 level were Copper Cap management trainees who had

completed the Copper Cap program and had less than five years of service with the government. At the average annual turnover rate of 13.7 percent, seven out of ten of the most highly qualified contract specialists are leaving in the first five years.

Employment specialists who work primarily in the contracting specialty report numerous inquiries from civil service contract specialists into opportunities in the private sector. The study completed for the Packard Commission indicated 55 percent of the DoD contract specialists would leave if offered jobs in other federal agencies or in private industry (22:174). The tendency to seek other employment was strongest among the most highly qualified specialists with college degrees and a relatively short amount of time with civil service, usually less than five years. The desire was also stronger if the employment was with a private company as opposed to another federal agency (22:179).

A few of these inquiries to employment specialists were from individuals approaching retirement, but the largest numbers were from individuals in the grade of GS-12 and below with only a few years in civil service. This would indicate active searching for alternative job opportunities by DoD contract specialists.

There is some variation in civil service grade structure among different locations or organizations. At Hanscom AFB in Boston, where Electronic Systems Division (ESD) of Air Force

Systems Command is located, warranted contracting officers hold GS-13 positions while contract specialists are GS-12s. Other commands within the Air Force often have a different grade structure. A warranted contracting officer may be a GS-11 or GS-12 in another command or at a base contracts office. At ESD a contract specialist may receive a promotion to GS-13 and a warranted contracting officer position as early as 14 months after receiving their GS-12 position. Interviews indicate promotion after such a short period was not normal nor desirable, but was occurring as a result of high turnover and the inability to retain high caliber contract specialists. Normally, the average time for GS-12 contract specialist is five to eight years before being considered for a GS-13 position. Interviewees at ESD indicate the reason for this accelerated promotion rate to the GS-13 positions is the losses occurring at both the GS-12 and GS-13 levels.

V. Conclusions and Recommendations

Introduction

The following conclusions and recommendations are based on the researcher's literature review, the surveys described in Chapter III, and the interviews described in Chapter IV.

The Packard Commission report states that higher pay and better opportunities in private industry lure the best college graduates and the brightest trainees away from government, particularly in such highly competitive fields as science, engineering, and contracting (22:67). The purpose of this research was to determine if this statement has any factual basis, what the causes of this problem are if it in fact exists, and to develop a factual comparison of DoD contract specialists and their private industry counterparts. This factual comparison can be used to determine if the perceptions held by government contract specialists are accurate. The Packard Commission surveyed the perceptions of GS-1102 contract specialists. Equity theory, as reviewed in chapter II, indicates these perceptions can have a direct effect on the turnover behavior of employees. This research concentrates on the output or reward side of the equity comparison individuals make. The input side of the comparison is limited in this research to education and experience, and does not take into account the day-to-day responsibility and workload born by either the government contract specialists or

their private industry counterparts. These other input factors are difficult to quantify, making the concentration on the measurable factors of education and experience necessary.

The perceptions of civil service contract specialists (Figure 6) about the difference in pay and benefits as compared to the private sector may be excessive. The difference in pay does not appear to be as large as many perceive, although in certain locations, specialties, and senior level jobs the gap is significant (Figure 7).

Conclusions

The evidence from the surveys and telephone interviews indicate the Packard Commission is correct in its assessment of DoD's competitiveness in attracting and retaining high caliber contracting personnel. Even when the DoD does attract highly qualified college graduates through such special programs as Copper Cap, it is often incapable of retaining these people beyond four or five years. The loss of these valuable employees, just as they are completing their training programs and developing an expertise, creates the need for more recruiting at the entry level. The cost of these losses, and the directly related increase in recruitment activities, is difficult to determine. When turnover reaches as high as 40 percent per year, it is equivalent to a complete turnover of the entire workforce every two and one-half years. The cost of this turnover to the DoD was not one of the goals of

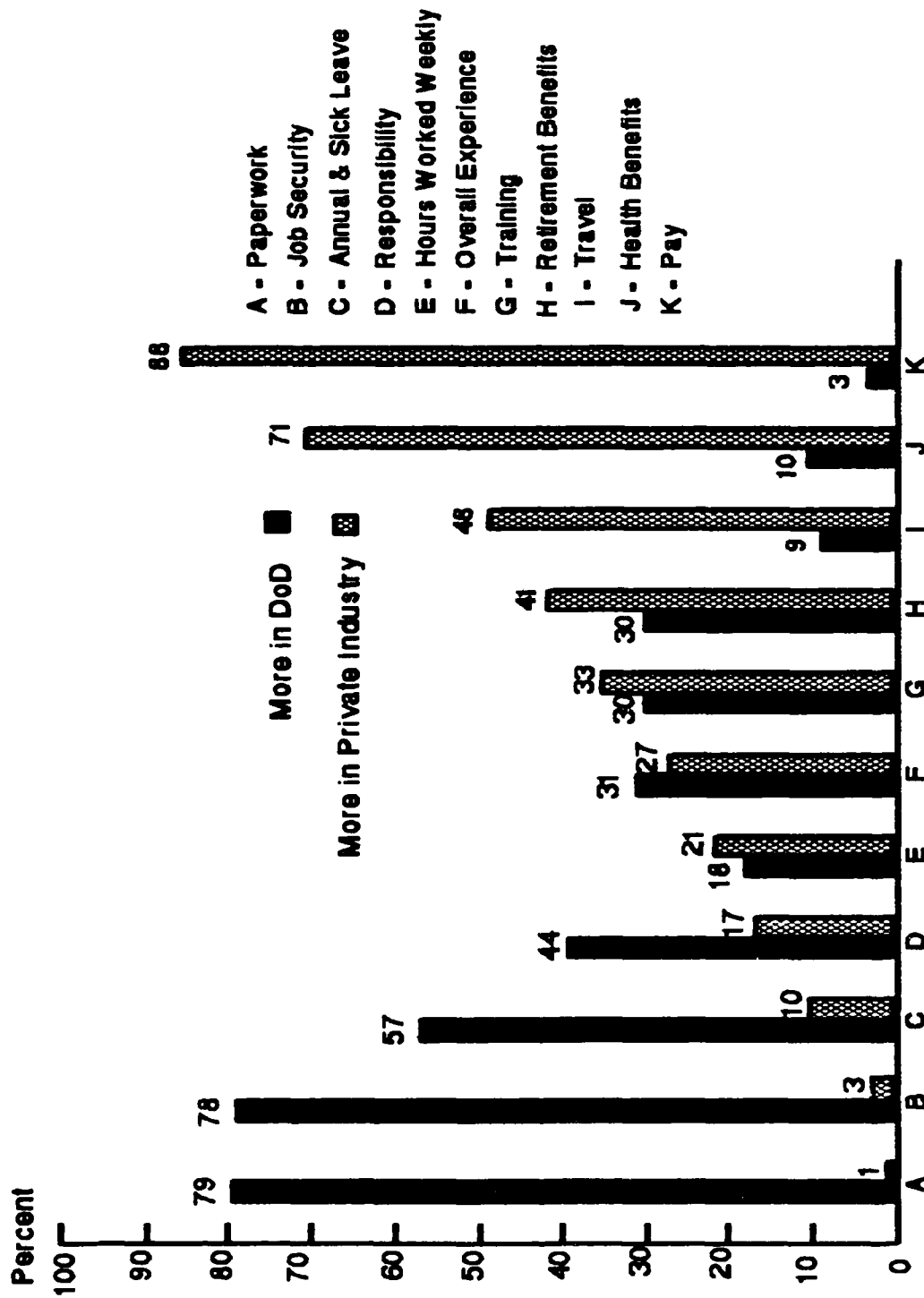


Figure 6. COMPARISONS TO PRIVATE INDUSTRY
(Contract Specialists) (22:177)

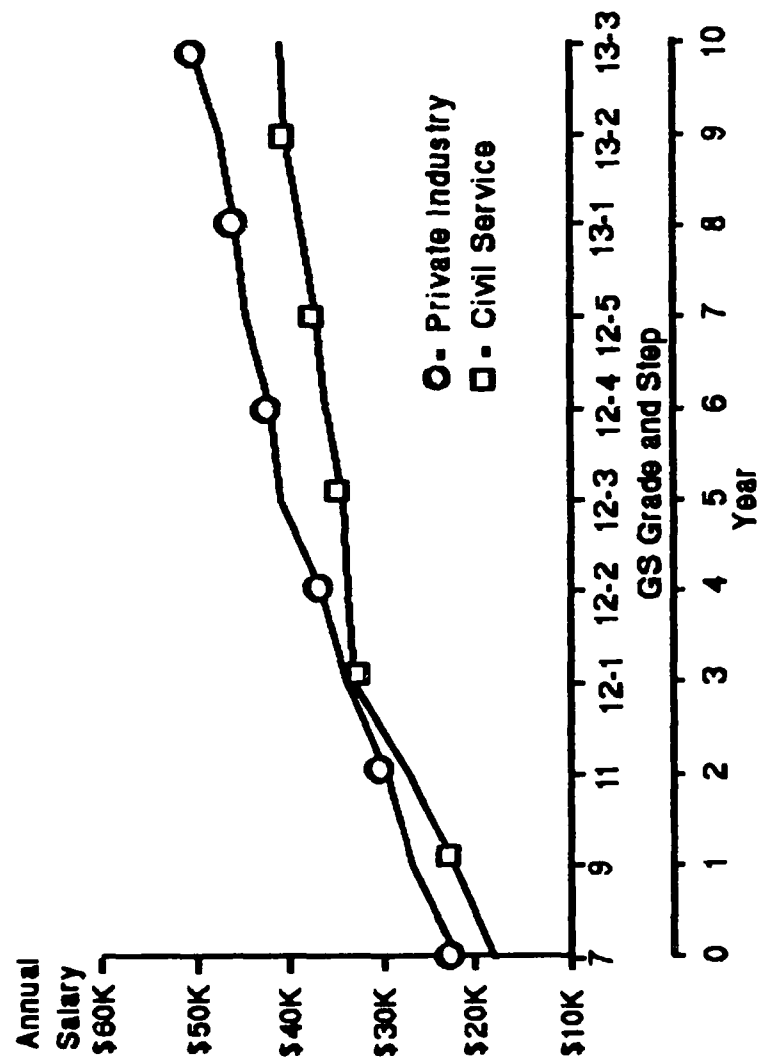


Figure 7. Contract Specialist Salary Comparison
(Appendix C)

this research, but indications are the cost to DoD must be extensive.

Interviews indicate the DoD is successful at recruiting high caliber college graduates through programs such as Copper Cap. Retention of these high caliber employees is the area which seems to need the most attention. The evidence indicates that in areas such as Los Angeles and Boston, the DoD is providing a training program for future private industry contract specialists. The DoD must retain the highly qualified recruits it is getting through management training programs if it is to continue to procure high quality systems at the lowest possible cost to the taxpayers.

The DoD must make an effort to reduce the turnover problem that currently exists if it is to maintain a stable, high quality workforce and improve the image of DoD acquisition. The possible solutions to the problem are many, the optimum solution is the one which will provide the highest quality workforce at the lowest total cost. This lowest cost must not only include the cost of personnel and training activities, but the cost of losing valuable experience and the savings on systems that this experience makes possible.

Recommendations

The simplest solution to the turnover problems DoD is experiencing would be across the board increases in pay and benefits for civil service contract specialists. Like many simple solutions, this one would probably be more costly than effective. The most effective solution will address the

diverse causes of turnover in different locations and organizations within DoD. The education of current and prospective employees will also be part of this solution.

Decentralization of personnel administration. The first recommendation from this research is to decentralize as much as possible the current personnel administration structure. The research indicates the problems of turnover are highly dependent not only on geographic location, but on the specifics of the function each buying office performs. Civil service is currently very competitive in many locations where the products bought are of a relatively simple nature and the contractual actions are not complex. The problem areas include places such as Boston, Los Angeles, Washington D.C., and, increasingly, Dayton, Ohio. The functions performed in these locations typically include the development and procurement of major systems or policy making activities. The technology and contracting methods employed are complex and tend to be of high dollar value. The employment specialists interviewed indicate the electronics industry seems to command the highest salaries followed closely by space systems and other high technology industries.

Lawler states that organizations which operate in diverse geographic locations and in different types of businesses must employ a decentralized personnel administration function (11:39). This is indicated for an organization such as DoD which operates in locations all over the world and buys

everything from combat boots to satellites. The managers of individual product divisions or programs must be free to select and motivate people in the most effective manner possible for individual programs to be successful.

Improve pay and benefits of DoD contract specialists. While the decentralization of the personnel management process would improve responsiveness of organizations within DoD, managers must have the resources to reward highly capable people for their performance. Across the board increases would result in the overreward of some and continued underreward of others. Internal equity theory indicates the employee considers both inputs and rewards when making equity comparisons. If a high caliber employee is rewarded at the same rate as less capable colleagues, pay dissatisfaction may continue. While the probability of turnover is reduced as compensation approaches that available outside the organization, the negative effects of continued pay dissatisfaction would continue to reduce performance. Local managers could reward those employees who are deserving at a rate commensurate with their abilities and reduce the overall cost by preventing the overreward of other employees.

Professional classification of the GS-1102 series. The Office of Personnel Management (OPM) classifies the GS-1102 series as administrative. Jobs classified as administrative require no specific educational level and include such positions as budget examiners, program analysts and management analysts (8:120-121). DoD should increase the

Recommendations for Further Research

Value of Contract Specialists. There has been a great deal of research into the organizational behavior aspects of job satisfaction, specifically intrinsic factors. Extrinsic factors including economic considerations such as pay satisfaction have not received as much research. The way these factors impact turnover in an organization is of national consideration, affecting the quality of the organization's workforce and personnel related costs such as training, administrative costs, and lost corporate knowledge. Less quantifiable costs include the value of highly experienced contracting personnel to the DoD. What does it cost DoD to replace a highly experienced contracting person? Is both time and money beyond direct training costs? The Air Force keeps figures on the value of pilots who have to be replaced if they should leave. This is a relatively simple task as most of the value of a pilot is in direct training cost, including flying hours. A study that attempted to quantify these costs for various positions and grade levels would be very interesting and helpful to senior management in military circles. The effect of the limitations in PCS funding that the Air Force is currently experiencing would be a fertile area to explore. What impact will longer tours have on military spouses' families become more entrenched in a community, and how can we better and more highly compensated employees? The military member is under more pressure to relocate than the civilian member's family. If the spouse is

income matches or even exceeds the military member's income how would it effect the desire of the member to seek other employment? This topic could be a crucial area to explore as more spouses enter the workforce and military compensation continues to decline in comparison to private sector wages.

Revolving Door Legislation and Turnover. One of the significant causes of turnover outlined in the literature review and confirmed in this research was the lack of or limited future opportunities for promotion. This was especially true at the GS-12 level where many contract specialists perceive reduced opportunity for advancement. Revolving door legislation currently in effect impacts individuals in the grade of major and above or GS-13 and above. Many of the employment specialists questioned in this research stated that it was becoming increasingly difficult to place individuals affected by this legislation. Many client firms are being extra careful when hiring senior level employees with a background in civil service or the military. Could this legislation reduce the perceived value of a GS or GM-13 position to the talented GS-12 contemplating a promotion? Might the individual consider it more prudent to leave the DoD as a GS-12 rather than face reduced options upon acceptance of the GS-13 level job and its related post-employment restrictions?

The "Input" Side of the Equity Comparison. The study performed by the Army Procurement Research Office (APRO), the

Packard Commission report, and the telephone interviews conducted for this research indicate the "input" side of the equity comparison needs further research. The APRO study concludes that the increased demand for obligations, increasing volume of regulations, and increasing numbers of changes and reviews is stressing the GS-1102 workforce (1). Both the APRO study and the Packard Commission found the lack of office resources was a frustrating problem for contract specialists. A study of the input side of the equation would be very welcome as would a study to find the causes and solutions for the more aggravating problems causing contract specialists to seek other employment.

Concluding Remarks

The proper and efficient expenditure of public funds is critical for two very important reasons. The first of course being the conservation of a very limited resource and the maintenance of public trust in DoD's acquisition system. This is particularly true in the face of mounting federal budget deficits. A second, and more important, reason is the necessity of providing the young men and women who defend our country the best possible equipment to defend themselves and the United States. Resources lost to inefficient acquisition cannot be used to procure needed equipment or provide necessary training to help those men perform their mission.

During the research and writing of this thesis, the USS Stark was attacked, while on patrol in the Persian Gulf, by an

Iraqi aircraft using Exocet missiles. The immediate result of the attack was the loss of 37 Navy men. The results of the investigation into the incident are not yet available, but they may indicate deficiencies in equipment or training and procedures. If such deficiencies are identified, the resources must be available and properly used to prevent future such tragedies. The proper care of these resources requires capable people in the contracting field, both in private industry and in the Department of Defense.

Appendix A. Sample Resumes

These sample resumes were distributed to private sector companies and employment specialists, prior to the telephone interviews, to provide them with a common basis for discussing compensation.

Name:
GS-12

Resume #1

Address: Los Angeles, CA

U.S. Citizen
Clearance: Top Secret

PERSONAL DATA:

Age 28. Married: No Children

EXPERIENCE:

1 JUNE 86 - PRESENT

Contract Specialist (GS-1102), Contract Operations Division, Defense Satellite Communication System (DSCS) Program Office, Space Division, Los Angeles AFS, CA. Responsible for sole source negotiations of Fixed Price, Cost-Plus-Fixed Fee, and Level of Effort contracts for research and development, advanced development, production, services and studies contracts. Duties required writing acquisition plans for Secretary of Defense approval, writing sole-source justifications for both local and Air Force Systems Command approval, developing Requests for Proposals, negotiating and finalizing contracts.

1 OCT 84 - 31 MAR 86

Contract Specialist (GS-1102), Contracts Division, Western Space and Missile Center (WSMC), Vandenberg Air Force Base, CA. Responsible for acquisition of special test equipment, Automated Data Processing equipment, hardware, software, and maintenance services, telemetry systems, and space shuttle support systems.

APR 84 - OCT 84

Range Operations Contract Administrator (GS-1102), Contract Management Division, 1950-1048, 10. Responsible for the administration of operations and maintenance contracts in support of the Western Test Range. Assigned contracts for Fixed Price, Cost-Plus-Fixed Fee, and Level of Effort contracts for test equipment, instrumentation, and support services. Assigned contracts for test equipment, instrumentation, and support services. Assigned contracts for test equipment, instrumentation, and support services.

modifications, performed award fee evaluations and conducted contractor surveillance.

EDUCATION

OCT 86 Master's of Business Administration
Golden Gate University, San Francisco, CA

AUG 82 Bachelor of Science in Business Administration
Concentration in Financial Management
Oregon State University, Corvallis, Oregon

JUNE 82 Bachelor of Science in General Engineering
Concentration in Mechanical Engineering
Oregon State University, Corvallis, Oregon

Air Force Technical Training

•denotes
Honor
Graduate
Award

•Production Management I (PPM 153) NOV.
84. Six week Air Force Institute of
Technology course with three weeks in
General Electric's aircraft engine plant
in Evendale, Ohio.

Principles of Contract Pricing SEP 84.

Space & Missile Orientation Course - July
84

•Central Systems Level Contracting June 84

AFSC Systems Acquisition School -
Introduction to Systems Command
Acquisition Management JAN 84

Introduction to Configuration Management
(SYS028) NOV 84

Space Division Acquisition Management
Orientation Course NOV 83

SIGNIFICANT CAREER ACCOMPLISHMENTS/AWARDS

1982 Received Engineer-In-Training (EIT) Certification

1977 Awarded 4 Year Scholarship

PROFESSIONAL AFFILIATIONS

National Contract Management Association (NCMA)
Served as Vandenberg Chapter Treasurer 1985 - 86

Society of American Military Engineers

Air Force Association

SIGNIFICANT ADDITIONAL DUTIES:

Project Officer for the Department of Defense Inspector
General Procurement Fraud Training - May 85

Name:
GS-12

Resume #2

Address: Washington, D.C.

U.S. Citizen
Clearance: Top Secret

PERSONAL DATA:

Age 27. Married; no children.

EXPERIENCE:

JUNE 1984 - PRESENT

Procurement Analyst (GS1102), HQ Air Force Systems Command, Andrews AFB, MD. Responsible for gathering, analyzing, and briefing information on major system programs to senior management. Act as interface between system program offices and HQ AFSC.

JUNE 1981 - JUNE 1984

Contract Price Analyst (GS1102-9), Aeronautical Systems Division (ASD), Wright-Patterson AFB, OH. Hired and trained through Air Force COPPER CAP program. Responsible for performing price analysis and negotiations on contracts with a minimum expected value of \$10 million or more.

EDUCATION:

MAY 1981 Bachelor of Science in Business Administration
Concentrations in Purchasing Management and Accounting
with Honors
Wright State University, Fairborn, Ohio

Air Force
Technical
Training:

Principles of Contract Pricing (QMT 170),
Air Force Institute of Technology Honor Graduate

Central and Systems Contracting Course,
Lowry AFB

Government Contract Law, Air Force
Institute of Technology

Contract Administration, Air Force
Institute of Technology

PROFESSIONAL AFFILIATIONS:

National Contract Management Association (NCMA)

Name:
GS-9

Resume #3

Address: Long Beach, CA

U.S. Citizen
Clearance: Top Secret

PERSONAL DATA:

Age 26. Single.

EXPERIENCE:

JUNE 1983 - PRESENT

Contract Specialist (GS1102), Space Division, Los Angeles AFS, CA. Responsible for both competitive and negotiated procurement of major space systems including satellites and launch vehicles. Duties included development of Requests for Proposals, Invitations for Bids, price analysis, and negotiations. Assigned programs include MILSTAR and NAUSTAR Global Positioning System. Hired and trained under the Air Force COPPER CAP program.

EDUCATION:

MAY 1983

Bachelor of Science in Business
Administration
Concentration in Accounting
University of Southern California

Air Force
Technical
Training:

Central and Systems Contracting Course,
Lowry AFB, Colorado
Honor Graduate

Principles of Contract Pricing (QMT 170),
Air Force Institute of Technology
Honor Graduate

Contract Administration, Air Force
Institute of Technology

PROFESSIONAL AFFILIATIONS:

National Contract Management Association (NCMA)

Name
GM-13

Resume #4

Address: Boston, MA

U.S. Citizen
Clearance: Top Secret

PERSONAL DATA

Age 32. Married; No Children

EXPERIENCE

1 OCT 86 - PRESENT

Contracting Officer (GS-1102), Contracts Division, Electronic Systems Division (ESD), Hanscom Air Force Base, MA. Responsible for the acquisition of critical communications, telemetry, and other electronic systems. Supervises team of nine contract specialists, reviews and approves Invitations for Bids, Requests for Proposals, contracts and contractual documentation. Conducts sole source negotiations and acts as negotiation team leader. Completely responsible for the proper award of contracts for research and development, advanced development, production and services. Prepare justifications and approval documents for Secretary of Defense approval. Responds to congressional requests for program data on a high priority time schedule.

1 OCT 83 - 31 MAY 85

Contract Specialist (GS1102-12), Contracts Division, Western Space and Missile Center (WSMC), Vandenberg AFB, CA. Responsible for acquisition of special test equipment, ADPE hardware, software, and maintenance services, telemetry systems, and space shuttle support systems.

AUG 80 - OCT 83

Range Operations Contract Administrator (GS1102-1), Contract Management Division, WSMC, VAFB, CA. Responsible for the administration of Operation and Maintenance contracts in support of the Western Test Range. Assigned contracts included Precision Measurement Equipment Lab (PMEL), Center Technical Services Contract (CTSC), and the WSMC Technical Library. Contract types included Firm-Fixed-Price, Cost-Plus-Award-Fee, and Level of Effort. Negotiated contract modifications, performed award fee evaluations and conducted contractor surveillance. Hired and trained under Air Force COPPER CAP program.

EDUCATION

OCT 86 Master of Science in Logistics Management
Contract & Acquisition Management Major,
Air Force Institute of Technology

AUG 80 Bachelor of Science in Business
Administration, Concentration in Financial
Management, Oregon State University,
Corvallis, Oregon

JUNE 80 Bachelor of Science in General Engineering
Concentration in Mechanical Engineering
Oregon State University, Corvallis, Oregon

Technical Training:

*denotes
Honor
Graduate
Award

*Production Management I (PPM 153) NOV.
84. Six week AFIT course with three weeks
in General Electric's aircraft engine
plant in Evendale, Ohio.

Principles of Contract Pricing SEP 84.

Space & Missile Orientation Course - July
84

*Central Systems Level Contracting June 84

Air Force Systems Command Systems
Acquisition School - Introduction to
Systems Command Acquisition Management
JAN 84

Introduction to Configuration Management
-SYS028- NOV 84

Space Division Acquisition Management
Orientation Course - NOV 84

NOTABLE CAREER ACCOMPLISHMENTS AWARD

1985 Selected to attend AFIT Master's program

1982 Received Engineer in Training (EIT) certification

PROFESSIONAL AFFILIATIONS

National Contract Management Association (NCMA)
Served as Vandenberg Chapter Treasurer 1984-1985

Society of American Military Engineers

Air Force Association

ADDITIONAL EXPERIENCE:

Project Officer for the Department of Defense Inspector
General Procurement Fraud Training - May 85

Name
GS-11

Resume #5

Address: Boston, MA

U.S. Citizen
Clearance: Top Secret

PERSONAL DATA

Age 28. Married; No Children

EXPERIENCE

1 OCT 85 - PRESENT

Contracting Specialist (GS-1102), Contracts Division, Electronic Systems Division, Hanscom Air Force Base, MA. Responsible for the acquisition of critical communications, telemetry, and other electronic systems. Prepares Invitations for Bids, Requests for Proposals, contracts and contractual documentation. Conducts both sole source and competitive negotiations. Responsible for the award of contracts for research and development, advanced development, production and services. Prepares justification and approval documents for Secretary of Defense approval. Responds to congressional requests for program data on a high priority time schedule.

1 OCT 83 - 30 SEP 85

Contract Specialist (GS1102-9), Contracts Division, Western Space and Missile Center (WSMC), Vandenberg AFB, CA. Responsible for acquisition of special test equipment, ADPE hardware, software, and maintenance services, telemetry systems, and space shuttle support systems.

AUG 82 - OCT 83

Range Operations Contract Administrator (GS1102-7), Contract Management Division, WSMC, VAFB, CA. Responsible for the administration of Operation and Maintenance contracts in support of the Western Test Range. Assigned contracts included Precision Measurement Equipment Lab (PMEL), Center Technical Services Contract (CTSC), and the WSMC Technical Library. Contract types included Firm-Fixed-Price, Cost-Plus-Award-Fee, and Level of Effort. Negotiated contract modifications, performed award fee evaluations and conducted contractor surveillance. Hired and trained under Air Force COOPER program.

EDUCATION

Bachelor of Science in Business Administration
Concentration in Financial Management
University of Washington, Seattle, WA

Technical
Training

• denotes
Honor
Graduate
Award

• President of "Management" (1971-1972) -
 Mr. John Decker of the House of Representatives,
 in general, President of the House of Representatives,
 and in general, President of the House of Representatives.

Principles of Contract Printing, 4th ed.

Space & Missile Center at Fort Belvoir, Mo
84

• Central Systems Level: Contrasting

Air Force Systems Command Systems
Acquisition School, Fort Belvoir, IL
Systems Command Acquisition Management
JAN 84

Introduction to Configuration Management
(SYS028) NOV 84

Space Division Acquisition Management
Orientation Course - NOV 83

PROFESSIONAL AFFILIATIONS

National Contract Management Association NCMHA
- Served as Vandenberg Chapter Treasurer 1984 95

Air Force Association

ADDITIONAL EXPERIENCE:

Project Officer for the Department of Defense Inspector
General Procurement Fraud Training - May 85

Name
[redacted]

Resume #8

Address [redacted]

U.S. Citizen
Clearance Top Secret

PERSONAL DATA

Age 38 Married No Children

EXPERIENCE

1 JUL 85 - PRESENT

Price Analyst Negotiator GS-1102 Pricing Division
Contractual Systems Division ASD Wright Patterson AFB
WPAFB, OH. Responsible for price and cost analysis for
contractual actions with an expected value in excess of
\$10 million. Lead negotiator on cost phase of contract
negotiations. Responsible for Cost Plus Award Fee and
Cost Plus Fixed Fee as well as fixed price contracts
including research and development, advanced development
production and services. Prepares Pre-Negotiation
Memorandums and briefs senior management on negotiation
activities and results. Provides training to new price
analysts and assists contract specialists in preparation
of Requests for Proposals and contractual documentation.

1 JUL 82 - 30 SEP 85

Price Analyst GS-1102 Pricing Division ASD
WPAFB, OH. Performed cost and price analysis of
contractor proposals using computerized spreadsheets and
data bases and made recommendations to the price
negotiation team. Prepared Government negotiation
positions, Weighted Guidelines, and negotiation
documentation including post-negotiation briefings and
file documentation. Hired and trained under the Air
Force COPPER CAP program.

EDUCATION

AUG 82 Bachelor of Science in Business Administration
Minor in Engineering
Wright State University, Fairborn, Ohio

Technical
Training:

*Advanced Contract Pricing (QMT 345) MAY
85

Principles of Contract Pricing SEP 84

* denotes
Honor
Graduate
Award

*Central/Systems Level Contracting June 84

Air Force Systems Command Systems
Acquisition School - Introduction to
Systems Command Acquisition Management
JAN 84

Introduction to Configuration Management
(SYS028) NOV 84

PROFESSIONAL AFFILIATIONS:

National Contract Management Association (NCMA)

ADDITIONAL EXPERIENCE:

Project Officer for the Department of Defense Inspector
General Procurement Fraud Training - May 85

Appendix B: GS-1102 Education By Grade
(4)

This data was used to develop Figure 5.

	Grade 5	7	9	11	12	13	14	15	Total
Education									
HS Grad.	49	166	273	259	209	46	13	4	1019
Some Col.	104	204	373	325	418	139	23	3	1589
Bachelor	288	513	471	340	766	313	149	41	2881
Masters	26	57	97	90	259	150	90	31	800
PHD	2	5	2	6	13	5	5		38
Total	469	945	1216	1020	1665	653	280	79	5327
%w/Deg	67%	61%	47%	43%	62%	72%	87%	91%	59%

Appendix 1 Salary Data

The data for Figure 5, comparing salaries of civil service and private sector contract specialists is listed here. This data is current as of 1 August 1987.

GS	GS 1102 Salaries	year	Private Sector
7	\$18,358	1	\$22,000
9	\$22,458	2	\$27,000
11	\$27,172	3	\$29,600
12-1	\$32,567	4	\$33,200
12-2	\$33,653	5	\$36,350
12-3	\$34,739	6	\$40,500
12-4	\$35,825	7	\$41,500
12-5	\$36,911	8	\$43,560
13-1	\$38,127	9	\$45,500
13-2	\$40,018	10	\$47,500
13-3	\$41,309	11	\$50,700
13-4	\$42,600		
13-5	\$43,891		
14-1	\$45,763		
14-2	\$47,288		
14-3	\$48,813		
14-4	\$50,338		
14-5	\$51,863		
15-1	\$53,830		
15-2	\$55,624		
15-3	\$57,418		
15-4	\$59,212		
15-5	\$61,006		

APPENDIX C - FIRM LISTING - (continued)

Engineering and Construction Services, Inc. is a full service engineering and construction firm. The firm has been in business since 1965 and has a long history of providing quality services to its clients. The firm is currently working on a number of projects, including a major project in the area of environmental engineering. The firm is also working on a number of projects in the area of construction management. The firm is currently working on a number of projects, including a major project in the area of environmental engineering. The firm is also working on a number of projects in the area of construction management.

Environmental Engineering Services, Inc.
1000 1st Street, N.W.
Washington, D.C. 20004

Environmental Engineering Services, Inc.
1000 1st Street, N.W.
Washington, D.C. 20004
1000 1st Street, N.W.
Washington, D.C. 20004

Environmental Engineering Services, Inc.
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Washington, D.C. 20004

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Washington, D.C. 20004

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Washington, D.C. 20004
1000 1st Street, N.W.
Washington, D.C. 20004

Environmental Engineering Services, Inc.
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Washington, D.C. 20004
1000 1st Street, N.W.
Washington, D.C. 20004

Environmental Engineering Services, Inc.
1000 1st Street, N.W.
Washington, D.C. 20004
1000 1st Street, N.W.
Washington, D.C. 20004

Research Incorporated
P.O. Box 18698
Washington DC 20036-8698

R. Allen Brooks Associates
R. Allen Brooks
9030 N. Main Street
Tulsa OK 74131

R. E. Howard, Inc.
R. E. Howard
1000 Farmington Drive
Knoxville TN 37923

Research Government Electronics Corp.
Rayette Curtis
4000 E. McDowell Rd
Scottsdale AZ 85252

Personnel Dept., EEMCO Division
4585 Electronics Place
Los Angeles CA 90039

Research Incorporated
Pat. McGowan
8500 Everitt Park Avenue
Fairfax CA 92031

Professional Personnel Consultants
Emerg. J. Zobro
P.O. Box 21786
Tampa FL 33627

Riddick Associates
Phil Riddick
P.O. Box 61444
Virginia Beach VA 23462

Roberts Personnel
Bob Fishberg
Farm Hollow C.C. 309 Farmington Ave
Farmington CT 06032

Sanford Rose Associates
R.E. Roberts
39 Westmoreland Avenue
White Plains NY 10606

SoftTech, Inc.
Mary Lofland
Dept. 130, 2000 N. Beauregard St.
Alexandria VA 22311-1794

Statham Div., Solartron Electronics
2230 Statham Boulevard
Oxnard CA 93033

The Boeing Company
P.O. Box 3707-HLL
Seattle WA 98124

The Hosner Group
P.O. Box 22X
Sewickie PA 15143

Thomson Components - Mostek
Employment Manager
1310 Electronics Drive/MS 1176
Carrollton TX 75006

TRW Federal Systems Group
Jackie Nash
One Federal Systems Park Drive
Fairfax VA 22033

TRW, Dept. SA/NCM, 134/10048
One Space Park
Redondo Beach CA 90278

TRW, S & IG
Henry James
154/1763, One Space Park
Redondo Beach CA 90278

United Technologies
Hamilton Standard Division
Nick Panilla

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10. ----- and D.P. Schwab. "Work and Rewards Theory." ASPA Handbook of Personnel and Industrial Relations. Washington DC.: Bureau of National Affairs, (1979), pp. 6(1)-6(22).
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22. The President's Blue Ribbon Commission on Defense Management. A Quest for Excellence. Final Report to the President, June 1986.
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26. Wallace, Marc J., and Charles H. Fay Compensation Theory and Practice. Boston MA: Kent Publishing, 1983.

Captain Russell E. Scott was born on 11 May 1947 in Springfield, Oregon. He graduated from high school in Springfield, Oregon in 1965 and attended Oregon State University from which he received Bachelor of Science degrees in General Engineering and Business Administration in 1969. Upon graduation, he received a commission in the ROTC program. Captain Scott began active duty in 1969 in the ROTC program. Captain Scott began active duty in 1983 as a student pilot at Reese AFB, Texas. In August 1984, Captain Scott was reassigned to the Western Range and Training Center, Vandenberg AFB, California as a Range Operations Contract Administrator and later as a Contract Negotiator until entering the School of Systems and Logistics, Air Force Institute of Technology, in June 1986.

Permanent address 2423 North 18th Street
Springfield, Oregon 97131

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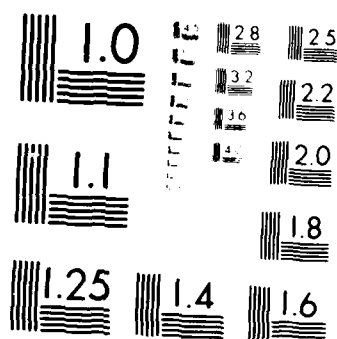
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ABSTRACT

The Packard Commission stated "DoD must be able to attract and retain the caliber of people necessary for a quality acquisition program." and "compared to its industry counterparts, this work force is undertrained, underpaid, and inexperienced." This study examines the factors which impede the DoD's ability to attract and retain high caliber civilian personnel in the GS-1102 series. A comparison of DoD contract specialists and their private sector counterparts was developed through telephone interviews and examination of recently completed surveys. This research indicates the DoD contract specialists are not compensated as well as their private industry counterparts. While DoD attracts high caliber college graduates through such programs as Copper Cap, it often fails to retain these people beyond five years of service. Recommendations include decentralization of personnel management, increasing compensation of contract specialists, and removal of artificial barriers in the civil service hiring process.

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